about the look of the wireless pages so that the wireless page delivery system 70 (See Figure 1), when it receives a request for a web page, automatically generate the appropriate one or more cards for the wireless device based on the generated rulesets and stylesheets. Thus, once the user defines the rulesets and stylesheets, the wireless page delivery system automatically generates the wireless pages in accordance with the stylesheets.

Using the generated rulesets, the RML builder module 84 and the XSL generator module 86 may generate an RML document and then generate an XSL stylesheet that reflects the producer's requirements as embodied in the rulesets and the RML document. The ruleset may also be used to generate project information that may be combined with the XSL stylesheet to generate a wireless website project that may then be deployed using the wireless web page delivery system as shown in Figure 1. Using the wireless page generation system, the user may specify the format of its web pages on the wireless devices.

The above system is an example of the environment in which the generalizer system and method in accordance with the invention may be used. The above example provides context for the terms used below and therefore the above example will be used throughout the application to describe the invention although the invention has broader applicability to any formatted document. Now, an example of the generalization problem will be described.

Figure 3 illustrates an example of generalization and a simple scenario that is handled by the generalizer system and method in accordance with the invention. As shown, a web page or other formatted document has been broken down into one or more objects, such as a XHTML structure, in a tree 100. As shown, the tree may include a root node, A, with child nodes B and

C wherein C has three child nodes that are all labeled "D". Now, suppose a user wants to "generalize" the "D" nodes whose numbers may vary from time to time so that a processing guide may locate the "D" nodes regardless of the number of D nodes. In this example, the "D" node has a "C" tag as its parent in the XHTML structure. The D node may be generalized by selecting two "D" nodes (atomics shown as circled) and inserting a 'generalized' tag for this group (as described in more detail below in Figures 8A and 8B). If the "C" tag has several "D" tags underneath it, all the "D" tags will be converted into atomics and will be "generalized." Thus, the generalizer method and system handles a change in number of children. A similar method in accordance with the invention may be used to handle the generalization of groups of atomics or nodes. After the node selection is made, the front-end passes an Agnostic RML structure to the XPath PreProcessor (not shown in Figures 2A or 2B, but located in the XSL generator 86). The XPath PreProcessor may then compute a single general XPath expression that uniquely identifies each generalized set of nodes.

There are several problems in generalization as it relates to how the XHTML happens to get organized into an ARML structure. The ARML essentially contains a mapping from the XHTML structure into another structure, RML. This mapping can take many forms. For example, the mapping information is also contained in the XSL stylesheet used to map XHTML into RML. However, since ARML contains the identical hierarchical structure as the target RML, it is usually adequate to say that the organization of XHTML pieces into an ARML structure is equivalent to the same organization into an RML structure.

Generalized nodes are interesting because a single template (XSL Stylesheet) handles the creation of all instances of that node in the target RML. Any XPath expression is capable of representing more than one node. The set of nodes the XPath expression represents is often called a *nodeset*. As shown in Figure 4, the XPath expression **b/p** could potentially match several paragraphs from the **td** node depending on the contents of the XHTML. There could, for example, be three paragraphs ("p") connected to the **td** node through a **b** tag as shown in the Figure 4.

An *anchor node* 102 (as shown in Figure 4) is defined as the context XHTML node of the XSL template for a particular RML node. This is the XHTML node that is matched in order to begin construction of the corresponding RML node, and the XSL code within the template is responsible for extracting the desired content from the XHTML and placing it within the RML node. The concept of a context node is something inherent to XSL. The concept of an anchor node is essentially equivalent, however it is more specific because it is tied to the concept of mapping from XHTML to RML. Now, the general operation of the generalizer method in accordance with the invention will be described.

In order to generalize a group of elements (also referred to an atomics) or an atomic, the anchor node may be generalized. As stated earlier, the anchor node is the context node, and it is thus the XHTML node from which the remainder of the XHTML to be used in the mapping can be referenced. Based upon the example mappings, the generalizer first decides how those mappings are anchored. In other words, the question to answer is, which XHTML node should be used as the context node of the XSL template that produces this RML node? Once that has